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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,000	06/07/2006	Shinichi Inoue	3273-0226PUS1	9234
2292 7590 12/15/2010 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER				
HEINCE, LIAM J				
ART UNIT		PAPER NUMBER		
1767				
NOTIFICATION DATE		DELIVERY MODE		
12/15/2010		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

### Office Action Summary

**Application No.**

10/582,000

**Applicant(s)**

INOUE ET AL.

**Examiner**

LIAM J. HEINCER

**Art Unit**

1767

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 November 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2,6-8,12-14 and 22-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2,6-8,12-14 and 22-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB06)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**  
***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schauder et al. (US Pat. 5,728,766) in view of Singha et al. (Journal of Applied Polymer Science, Vol. 68, 1647-1652, 1997) as evidenced by the declaration filed November 12, 2010.

Considering Claims 2 and 6: Schauder et al. teaches a rubber like article (6:30-40) comprising an ethylene-propylene copolymer (2:25-54) that has been molded and vulcanized (4:52-5:11). Schauder et al. teaches the copolymer as having a molecular weight distribution between 1 and 8 and a Mooney viscosity of 200 to 70,000 (4:19-27). As shown by the original specification, EPM rubbers having a Mooney viscosity 170 have a molecular weight of 600,000 and molecular weight increases as Mooney viscosity increases (pg. 4). As such, a polymer with a Mooney viscosity of 200 to 70,000 would have a molecular weight of greater than 830,000.

Schauder et al. does not teach ethylene-propylene copolymer as being a hydrogenated product of natural rubber. However, Singha et al. teaches hydrogenating a natural rubber/Hevea brasiliensis to a degree of hydrogenation of 100% (Table II) in the presence of a rhodium complex in

a solvent (pg. 1652). Schauder et al. and Singha et al. are analogous art as they are concerned with the same field of endeavor, namely ethylene-propylene copolymers. It would have been obvious to a person having ordinary skill in the art at the time of invention to have used the hydrogenated rubber of Singha et al. as the ethylene-propylene polymer in the molded article of Schauder et al., and the motivation to do so would have been, as Singha et al. suggests, it is an easy method to produce ethylene-propylene copolymers (pg. 1647-48).

Singha et al. does not teach the hydrogenation as occurring in the state of latex. However, the instant claim is a product by process claim. “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted). See MPEP § 2113. As the original specification teaches that the latex and solvent embodiments are interchangeable, it is being assumed that the properties will be similar, absent evidence to the contrary.

Claims 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schauder et al. (US Pat. 5,728,766) in view of Singha et al. (Journal of Applied Polymer Science, Vol. 68, 1647-1652, 1997) as evidenced by the declaration filed November 12, 2010.

Considering Claim 7: Schauder et al. teaches a method for producing a rubber like article (6:30-40) comprising an ethylene-propylene copolymer (2:25-54) comprising molding and vulcanizing the article (4:52-5:11). Schauder et al. teaches the copolymer as having a molecular weight distribution between 1 and 8 and a Mooney viscosity of 200 to 70,000 (4:19-27). As shown by the original specification, EPM rubbers having a Mooney viscosity 170 have a molecular weight of 600,000 and molecular weight increases as Mooney viscosity increases (pg. 4). As such, a polymer with a Mooney viscosity of 200 to 70,000 would have a molecular weight of greater than 830,000.

Schauder et al. does not teach ethylene-propylene copolymer as being a hydrogenated product of natural rubber. However, Singha et al. teaches hydrogenating a natural rubber/Hevea brasiliensis to a degree of hydrogenation of 100% (Table II) in the presence of a rhodium complex in a solvent (pg. 1652). Schauder et al. and Singha et al. are analogous art as they are concerned with

the same field of endeavor, namely ethylene-propylene copolymers. It would have been obvious to a person having ordinary skill in the art at the time of invention to have used the hydrogenated rubber of Singha et al. as the ethylene-propylene polymer in the molded article of Schauder et al., and the motivation to do so would have been, as Singha et al. suggests, it is an easy method to produce ethylene-propylene copolymers (pg. 1647-48).

Singha et al. does not teach the hydrogenation as occurring in the state of latex. However, the instant claim is a product by process claim. “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted). See MPEP § 2113. As the original specification teaches that the latex and solvent embodiments are interchangeable, it is being assumed that the properties will be similar, absent evidence to the contrary.

Claims 8 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schauder et al. (US Pat. 5,728,766) in view of Singha et al. (Journal of Applied Polymer Science, Vol. 68, 1647-1652, 1997) as evidenced by the declaration filed November 12, 2010.

Considering Claims 8 and 12-14: Schauder et al. teaches a rubber like article (6:30-40) comprising 70 to 95 weight percent of EPDM resin and 5 to 30 weight percent of an ethylene-propylene copolymer (2:25-54) that has been molded and vulcanized (4:52-5:11). Schauder et al. teaches the copolymer as having a molecular weight distribution between 1 and 8 and a Mooney viscosity of 200 to 70,000 (4:19-27). As shown by the original specification, EPM rubbers having a Mooney viscosity 170 have a molecular weight of 600,000 and molecular weight increases as Mooney viscosity increases (pg. 4). As such, a polymer with a Mooney viscosity of 200 to 70,000 would have a molecular weight of greater than 830,000.

Schauder et al. does not teach ethylene-propylene copolymer as being a hydrogenated product of natural rubber. However, Singha et al. teaches hydrogenating a natural rubber/Hevea brasiliensis to a degree of hydrogenation of 100% (Table II) in the presence of a rhodium complex in a solvent (pg. 1652). Schauder et al. and Singha et al. are analogous art as they are concerned with

the same field of endeavor, namely ethylene-propylene copolymers. It would have been obvious to a person having ordinary skill in the art at the time of invention to have used the hydrogenated rubber of Singha et al. as the ethylene-propylene polymer in the molded article of Schauder et al., and the motivation to do so would have been, as Singha et al. suggests, it is an easy method to produce ethylene-propylene copolymers (pg. 1647-48).

Singha et al. does not teach the hydrogenation as occurring in the state of latex. However, the instant claim is a product by process claim. “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted). See MPEP § 2113. As the original specification teaches that the latex and solvent embodiments are interchangeable, it is being assumed that the properties will be similar, absent evidence to the contrary.

Claims 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schauder et al. (US Pat. 5,728,766) in view of Singha et al. (Journal of Applied Polymer Science, Vol. 68, 1647-1652, 1997) as evidenced by the declaration filed November 12, 2010.

Considering Claims 22-25: Schauder et al. teaches a rubber like article (6:30-40) comprising an ethylene-propylene copolymer (2:25-54) that has been molded and vulcanized (4:52-5:11). Schauder et al. teaches the copolymer as having a molecular weight distribution between 1 and 8 and a Mooney viscosity of 200 to 70,000 (4:19-27). As shown by the original specification, EPM rubbers having a Mooney viscosity 170 have a molecular weight of 600,000 and molecular weight increases as Mooney viscosity increases (pg. 4). As such, a polymer with a Mooney viscosity of 200 to 70,000 would have a molecular weight of greater than 830,000.

Schauder et al. does not teach ethylene-propylene copolymer as being a hydrogenated product of natural rubber. However, Singha et al. teaches hydrogenating a natural rubber/Hevea brasiliensis to a degree of hydrogenation of 100% (Table II) in the presence of a rhodium complex in a solvent (pg. 1652). Schauder et al. and Singha et al. are analogous art as they are concerned with the same field of endeavor, namely ethylene-propylene copolymers. It would have been obvious to

a person having ordinary skill in the art at the time of invention to have used the hydrogenated rubber of Singha et al. as the ethylene-propylene polymer in the molded article of Schauder et al., and the motivation to do so would have been, as Singha et al. suggests, it is an easy method to produce ethylene-propylene copolymers (pg. 1647-48).

Singha et al. does not teach the hydrogenation as occurring in the state of latex. However, the instant claim is a product by process claim. “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted). See MPEP § 2113. As the original specification teaches that the latex and solvent embodiments are interchangeable, it is being assumed that the properties will be similar, absent evidence to the contrary.

### ***Response to Arguments***

Applicant's arguments filed November 12, 2010 have been fully considered but they are not persuasive, because:

A) The applicant's argument that Singha et al. does not teach a hydrogenated polyisoprenoid is not persuasive. The applicant requests specific citations to show that the reference teaches a hydrogenated natural polyisoprenoid. Singha et al. teaches the hydrogenation of natural rubber/*Hevea brasiliensis* (Title). The applicant appears to agree with this statement (pg. 6 of applicant's arguments). As the original specification teaches, natural rubber is a natural polyisoprenoid (pg. 3). Further the original specification describes the reference as teaching a hydrogenated natural rubber (pg. 4-5).

B) The applicant's argument the Singha et al. does not teach hydrogenating in a latex is not persuasive. Singha et al. does not teach the hydrogenation as occurring in the state of latex. However, the instant claim is a product by process claim. “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art,

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the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted). See MPEP § 2113. As the original specification teaches that the latex and solvent embodiments are interchangeable, it is being assumed that the properties will be similar, absent evidence to the contrary.

C) The applicant’s argument there it would be difficult to make the proposed combination appears to misconstrue the instant rejection. Singha et al. teaches that their method is an alternative to conventional methods of producing ethylene-propylene polymers. Schauder et al. teaches a conventionally produced ethylene-propylene polymer. Therefore, a person having ordinary skill in the art at the time of invention would anticipate that the polymers could be used in similar applications, as Singha et al. teaches that their process an alternative method for making ethylene-propylene polymers. The final polymers would have substantially similar chemical structures. The selection of a known material based on its suitability for its intended use supported a *prima facie* obviousness determination in *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945). See MPEP 2144.07.

D) The applicant’s arguments that the claimed molecular weight would be non-obvious based on the teachings of Sasagawa, Reference Material 1, and Reference Material 2 is not persuasive. While these references teach poor processability at high molecular weights, the systems are materially different from the system of Schauder et al.. Schauder et al. teaches a blend of a high viscosity/molecular weight and low viscosity/molecular weight polymers that has good processability (4:7-35). Schauder et al. teaches one of the copolymers (the copolymer relied upon in the rejection) as having a Mooney viscosity of 200 to 70,000 (4:19-27). As shown by the original specification, EPM rubbers having a Mooney viscosity 170 have a molecular weight of 600,000 and molecular weight increases as Mooney viscosity increases (pg. 4). As such, a polymer with a Mooney viscosity of 200 to 70,000 would have a molecular weight of greater than 830,000.

E) The applicant’s argument of unexpected results is not persuasive. Any differences between the claimed invention and the prior art may be expected to result in some differences in properties. The issue is whether the properties differ to such an extent that the difference is really unexpected. *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). See MPEP §



716.02. The applicant has not provided an explanation of objective evidence showing that claimed invention is unexpected compared the cited references. See MPEP § 716.02(b).

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LIAM J. HEINCER whose telephone number is (571)270-3297. The examiner can normally be reached on Monday thru Friday 7:30 to 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/  
Supervisory Patent Examiner, Art Unit 1767

LJH  
December 3, 2010